Listing of Claims:

Please amend the claims as follows:

Claims 1-47 (Cancelled)

Claim 48 (Currently Amended) A method of making replicate arrays, comprising repeatedly sectioning a bundle of aligned array members disposed in structural members to make wafers comprising replicate arrays, wherein:

each of said ~~array comprises~~ structural members is aligned in the bundle parallel to an alignment axis and continuously encloses a ~~each of which has a~~ lumen through its length parallel to said axis ~~therethrough which is continuously enclosed thereby~~;

each of said array ~~member~~ members in said bundle is a homogeneous composition disposed within a ~~separate~~ lumen of a structural member ~~which extends from a first to a second wafer surface formed by said sectioning;~~ and is continuously enclosed therein through the length of said structural member parallel to said axis;

in forming said bundle said array members are disposed in said lumen such that upon and by said disposition therein said array members are therein continuously enclosed by said structural members through their length parallel to said axis; and

in each wafer formed by said sectioning of said bundle the section of each structural member and each array member disposed therein ~~are aligned in the bundle parallel to an alignment axis and occupy~~ occupies a defined position in the two dimensions orthogonal ~~thereto~~ to the alignment axis and extends from a first to a second wafer surface formed by said sectioning;

and further comprising carrying out an immunoassay, a hybridization assay, a ligand-binding assay or receptor binding assay, or a substrate analog affinity assay using said arrays.

Claim 49 **(Previously Presented)** A method according to claim 94, wherein the bundle further comprises alignment members effective for aligning wafers with one another.

Claim 50 **(Previously Presented)** A method according to claim 94, wherein each wafer further comprises embedded information spatially separate from said array members.

Claim 51 **(Previously Presented)** A method according to claim 94, wherein the array members are disposed on the surface of the lumen.

Claim 52 **(Previously Presented)** A method according to claim 94, wherein array members completely fill the lumen and form part of said first and second wafer surfaces.

Claim 53 **(Previously Presented)** A method according to claim 94, wherein the array members are cross-sectioned perpendicular to their alignment.

Claim 54 **(Previously Presented)** A method according to claim 94, wherein the array members are cross-sectioned at an angle of 10 to 80 degrees or 100 to 170 degrees to their alignment.

Claim 55 **(Previously Presented)** A method according to claim 94, wherein the array members are cross-sectioned by a smooth planar cut.

Claim 56 **(Cancelled)**

Claim 57 **(Previously Presented)** A method according to claim 48, wherein the surface area of array members exposed by cross-sectioning is increased over that provided by a smooth, planar cut.

Claim 58 **(Previously Presented)** A method according to claim 94, wherein structural members are comprised of a plastic, a glass, a metal or a ceramic.

Claim 59 **(Previously Presented)** A method according to claim 58, wherein structural members are comprised of a glass.

Claim 60 **(Previously Presented)** A method according to claim 58, wherein structural members are comprised of a plastic.

Claim 61 **(Previously Presented)** A method according to claim 60, wherein the plastic is a polycarbonate, polyethylene, polymethyl methacrylate, polystyrene, a copolymer of polystyrene, polysulfone, polyvinylchloride, polyester, polyamide, polyacetal, polyethyleneterephthalate, polytetrafluoroethylene or polyurethane.

Claim 62 **(Previously Presented)** A method according to claim 61, wherein the plastic is a polycarbonate, polyethylene, polystyrene, a copolymer of polystyrene, polysulfone or polyvinylchloride.

Claim 63 **(Previously Presented)** A method according to claim 94, wherein the array members are spaced about 1.0 to about 1,000 micrometers apart.

Claim 64 **(Previously Presented)** A method according to claim 94, wherein the array members have a surface area of about 1.0 to about 1,000,000 μm^2.

Claim 65 **(Previously Presented)** A method according to claim 94, wherein the density of array members in the array is about 250 to about 2,500,000 array members per square centimeter of cross sectional surface area of the array.

Claim 66 **(Previously Presented)** A method according to claim 94, wherein the density in the array is about 10 to about 100,000 array members per square centimeter of total surface area of the array.

Claim 67 **(Previously Presented)** A method according to claim 94, wherein there are about 100 to about 2,500,000 aligned array members.

Claim 68 **(Cancelled)**

Claim 69 **(Previously Presented)** A method according to claim 94, wherein cross-sectioning produces sections about 2.5 to about 2,500 micrometers thick.

Claim 70 **(Cancelled)**

Claim 71 **(Previously Presented)** A method according to claim 94, wherein the array members comprise analyte binding reagents.

Claim 72 **(Cancelled)**

Claim 73 **(Previously Presented)** A method according to claim 94 wherein the array members comprise analyte binding reagents that hybridize to DNA or RNA having specific nucleotide sequences, wherein the sequence specific binding reagents are polynucleotides, peptide-nucleic acids or polyamides.

Claim 74 **(Previously Presented)** A method according to claim 73, wherein the specific binding reagents are oligonucleotides.

Claim 75 **(Cancelled)**

Claim 76 **(Previously Presented)** A method according to claim 94 wherein the array members comprise analyyte binding regents that bind specific polypeptides, wherein the polypeptide-specific binding reagents are polyclonal antibodies, monoclonal antibodies, single chain antibodies, or antigen-binding fragments of antibodies.

Claim 77 **(Previously Presented)** A method according to claim 71, wherein analyte binding reagents are one or more of a nucleic acid, a polynucleotide, a DNA, an RNA, an oligonucleotide, a peptide-nucleic acid, an aptamer, a ribozyme, a nucleic acid-binding polyamide, a protein, a peptide, a polypeptide, a glycoprotein, an antibody, an antibody-derived polypeptide, a receptor protein, a fusion protein, a mutein, a lipid, a polysaccharide, a lectin, a ligand, an antigen or a hapten.

Claim 78 **(Previously Presented)** A method according to claim 94, further comprising carrying out an immunoassay, a hybridization assay, a ligand-binding assay or receptor-binding assay, or a substrate analog affinity assay, employing an array prepared by the process of claim 94.

Claim 79 **(Cancelled)**

Claim 80 **(Cancelled)**
Claim 81 **(Cancelled)**
Claim 82 **(Cancelled)**
Claim 83 **(Cancelled)**
Claim 84 **(Cancelled)**
Claim 85 **(Cancelled)**
Claim 86 **(Cancelled)**
Claim 87 **(Cancelled)**
Claim 88 **(Cancelled)**
Claim 89 **(Cancelled)**
Claim 90 **(Cancelled)**
Claim 91 **(Cancelled)**
Claim 92 **(Cancelled)**
Claim 93 **(Cancelled)**

Claim 94 **(Currently Amended)** A method of making replicate arrays, comprising repeatedly sectioning a bundle of aligned array members disposed in structural members to make wafers comprising replicate arrays, wherein:

each of said ~~array comprises~~ structural members is aligned in the bundle parallel to an alignment axis and continuously encloses a ~~each of which has~~ lumen through its length parallel to said axis ~~therethrough which is continuously enclosed thereby;~~

each of said array ~~member~~ members in said bundle is a homogeneous composition disposed within a ~~separate~~ lumen of a structural member ~~which extends from a first to a second wafer surface formed by said sectioning;~~ and is continuously enclosed therein through the length of said structural member parallel to said axis;

in forming said bundle said array members are disposed in said lumen such that upon and by said disposition therein said array members are therein continuously enclosed by said structural members through their length parallel to said axis; and

in each wafer formed by said sectioning of said bundle the section of each structural member and each array member disposed therein ~~are aligned in the bundle parallel to an~~

~~alignment axis and occupy~~ occupies a defined position in the two dimensions orthogonal ~~thereto~~ to the alignment axis and extends from a first to a second wafer surface formed by said sectioning;

wherein at least two array members are different from one another.

Claim 95 (Currently Amended) A method of making replicate arrays, comprising repeatedly sectioning a bundle of aligned array members disposed in structural members to make wafers comprising replicate arrays, wherein:

each of said ~~array comprises~~ structural members is aligned in the bundle parallel to an alignment axis and continuously encloses a ~~each of which has a~~ lumen through its length parallel to said axis ~~therethrough which is continuously enclosed thereby~~;

each of said array ~~member~~ members in said bundle is a homogeneous composition disposed within a ~~separate~~ lumen of a structural member ~~which extends from a first to a second wafer surface formed by said sectioning;~~ and is continuously enclosed therein through the length of said structural member parallel to said axis; and

in forming said bundle said array members are disposed in said lumen such that upon and by said disposition therein said array members are therein continuously enclosed by said structural members through their length parallel to said axis, and

in each wafer formed by said sectioning of said bundle the section of each structural member and each array member disposed therein ~~are aligned in the bundle parallel to an alignment axis and occupy~~ occupies a defined position in the two dimensions orthogonal ~~thereto~~ to the alignment axis and extends from a first to a second wafer surface formed by said sectioning;

wherein there are about 100 to 2,500,000 different aligned array members.

Claim 96 **(Currently Amended)** A method of making replicate arrays, comprising repeatedly sectioning a bundle of aligned array members disposed in structural members to make wafers comprising replicate arrays, wherein:

each of said ~~array comprises~~ structural members is aligned in the bundle parallel to an alignment axis and continuously encloses a ~~each of which has a~~ lumen through its length parallel to said axis ~~therethrough which is continuously enclosed thereby~~;

each of said array ~~member~~ members in said bundle is a homogeneous composition disposed within a ~~separate~~ lumen of a structural member ~~which extends from a first to a second wafer surface formed by said sectioning;~~ and is continuously enclosed therein through the length of said structural member parallel to said axis; and

in forming said bundle said array members are disposed in said lumen such that upon and by said disposition therein said array members are therein continuously enclosed by said structural members through their length parallel to said axis, and

in each wafer formed by said sectioning of said bundle the section of each structural member and each array member disposed therein ~~are aligned in the bundle parallel to an alignment axis and occupy~~ occupies a defined position in the two dimensions orthogonal ~~thereto~~ to the alignment axis and extends from a first to a second wafer surface formed by said sectioning;

wherein the array members comprise analyte binding reagents that hybridize to DNA or RNA having specific nucleotide sequences.

Claim 97 **(Currently Amended)** A method of making replicate arrays, comprising repeatedly sectioning a bundle of aligned array members disposed in structural members to make wafers comprising replicate arrays, wherein:

each of said ~~array comprises~~ structural members is aligned in the bundle parallel to an alignment axis and continuously encloses a ~~each of which has a~~ lumen through its length parallel

to said axis ~~therethrough which is continuously enclosed thereby~~;

each of said array ~~member~~ members in said bundle is a homogeneous composition disposed within a ~~separate~~ lumen of a structural member ~~which extends from a first to a second wafer surface formed by said sectioning;~~ and is continuously enclosed therein through the length of said structural member parallel to said axis; ~~and~~

in forming said bundle said array members are disposed in said lumen such that upon and by said disposition therein said array members are therein continuously enclosed by said structural members through their length parallel to said axis, and

in each wafer formed by said sectioning of said bundle the section of each structural member and each array member disposed therein ~~are aligned in the bundle parallel to an alignment axis and occupy~~ occupies a defined position in the two dimensions orthogonal ~~thereto~~ to the alignment axis and extends from a first to a second wafer surface formed by said sectioning;

wherein the array members comprise analyte binding reagents that bind specific polynucleotides.

Claim 98 **(Cancelled)**
Claim 99 **(Cancelled)**

Claim 100 **(Previously Presented)** A method of claim 48, wherein the bundle further comprises alignment members effective for aligning wafers with one another.

Claim 101 **(Previously Presented)** A method of claim 48, wherein each wafer further comprises embedded information spatially separate from said array members.

Claim 102 **(Previously Presented)** A method of claim 48, wherein the array members are disposed on the surface of the lumen.

Claim 103 **(Previously Presented)** A method of claim 48, wherein array members completely fill the lumen and form part of said first and second wafer surfaces.

Claim 104 **(Previously Presented)** A method of claim 48, wherein there are about 100 to about 2,500,000 aligned array members.

Claim 105 **(Previously Presented)** A method of claim 48, wherein the array members comprise analyte binding reagents.

Claim 106 **(Cancelled)**

Claim 107 **(Previously Presented)** A method of claim 95, wherein the bundle further comprises alignment members effective for aligning wafers with one another.

Claim 108 **(Previously Presented)** A method of claim 95, wherein each wafer further comprises embedded information spatially separate from said array members.

Claim 109 **(Previously Presented)** A method of claim 95, wherein the array members are disposed on the surface of the lumen.

Claim 110 **(Previously Presented)** A method of claim 95, wherein array members completely fill the lumen and form part of said first and second wafer surfaces.

Claim 111 **(Previously Presented)** A method of claim 95, wherein the surface area of array members exposed by cross-sectioning is increased over that provided by a smooth, planar cut.

Claim 112 **(Previously Presented)** A method of claim 95, wherein structural members are comprised of a plastic, a glass, a metal or a ceramic.

Claim 113 **(Previously Presented)** A method of claim 95, wherein structural members are comprised of a plastic.

Claim 114 **(Previously Presented)** A method of claim 95, wherein the array members comprise analyte binding reagents.

Claim 115 **(Previously Presented)** A method of claim 95, wherein analyte binding reagents are one or more of a nucleic acid, a polynucleotide, a DNA, an RNA, an oligonucleotide, a peptide-nucleic acid, an aptamer, a ribozyme, a nucleic acid-binding polyamide, a protein, a peptide, a polypeptide, a glycoprotein, an antibody, an antibody-derived polypeptide, a receptor protein, a fusion protein, a mutein, a lipid, a polysaccharide, a lectin, a ligand, an antigen or a hapten.

Claim 116 **(Previously Presented)** A method of claim 95, further comprising carrying out an immunoassay, a hybridization assay, a ligand-binding assay or receptor-binding assay, or a substrate analog affinity assay using said arrays.

Claim 117 **(Previously Presented)** A method of claim 96, wherein the bundle further comprises alignment members effective for aligning wafers with one another.

Claim 118 **(Previously Presented)** A method of claim 96, wherein each wafer further comprises embedded information spatially separate from said array members.

Claim 119 **(Previously Presented)** A method of claim 96, wherein the array members are disposed on the surface of the lumen.

Claim 120 **(Previously Presented)** A method of claim 96, wherein array members completely fill the lumen and form part of said first and second wafer surfaces.

Claim 121 **(Previously Presented)** A method of claim 96, wherein the surface area of array members exposed by cross-sectioning is increased over that provided by a smooth, planar cut.

Claim 122 **(Previously Presented)** A method of claim 96, wherein there are about 100 to about 2,500,000 aligned array members.

Claim 123 **(Previously Presented)** A method of claim 96, wherein there are about 100 to 2,500,000 different aligned array members.

Claim 124 **(Previously Presented)** A method of claim 96, further comprising carrying out an immunoassay, a hybridization assay, a ligand-binding assay or receptor-binding assay, or a substrate analog affinity assay using said arrays.

Claim 125 **(Previously Presented)** A method of claim 97, wherein the bundle further comprises alignment members effective for aligning wafers with one another.

Claim 126 **(Previously Presented)** A method of claim 97, wherein each wafer further comprises embedded information spatially separate from said array members.

Claim 127 **(Previously Presented)** A method of claim 97, wherein the array members are disposed on the surface of the lumen.

Claim 128 **(Previously Presented)** A method of claim 97, wherein array members completely fill the lumen and form part of said first and second wafer surfaces.

Claim 129 **(Previously Presented)** A method of claim 97, wherein the surface area of array members exposed by cross-sectioning is increased over that provided by a smooth, planar cut.

Claim 130 **(Previously Presented)** A method of claim 97, wherein structural members are comprised of a plastic, a glass, a metal or a ceramic.

Claim 131 **(Previously Presented)** A method of claim 97, wherein structural members are comprised of a plastic.

Claim 132 **(Cancelled)**

Claim 133 **(Previously Presented)** A method of claim 97, wherein analyte binding reagents are one or more of a nucleic acid, a polynucleotide, a DNA, an RNA, an oligonucleotide, a peptide-nucleic acid, an aptamer, a ribozyme, a nucleic acid-binding polyamide, a protein, a peptide, a polypeptide, a glycoprotein, an antibody, an antibody-derived polypeptide, a receptor protein, a fusion protein, a mutein, a lipid, a polysaccharide, a lectin, a ligand, an antigen or a hapten.

Claim 134 (Previously Presented) A method of claim 97, further comprising carrying out an immunoassay, a hybridization assay, a ligand-binding assay or receptor-binding assay, or a substrate analog affinity assay using said arrays.

Claim 135 (Currently Amended) A method of making replicate arrays, comprising repeatedly sectioning a bundle of aligned array members disposed in structural members to make wafers comprising replicate arrays, wherein:

each of said ~~array comprises~~ structural members is aligned in the bundle parallel to an alignment axis and continuously encloses a ~~each of which has a~~ lumen through its length parallel to said axis ~~therethrough which is continuously enclosed thereby~~;

each of said array ~~member~~ members in said bundle is a homogeneous composition disposed within a ~~separate~~ lumen of a structural member ~~which extends from a first to a second wafer surface formed by said sectioning;~~ and is continuously enclosed therein through the length of said structural member parallel to said axis; and

in forming said bundle said array members are disposed in said lumen such that upon and by said disposition therein said array members are therein continuously enclosed by said structural members through their length parallel to said axis, and

in each wafer formed by said sectioning of said bundle the section of each structural member and each array member disposed therein ~~are aligned in the bundle parallel to an alignment axis and occupy~~ occupies a defined position in the two dimensions orthogonal ~~thereto~~ to the alignment axis and extends from a first to a second wafer surface formed by said sectioning;

wherein the array members are cross-sectioned by a non-planar cut, and

wherein at least two array members are different from one another.

Claim 136 (Cancelled)

Claim 137 (Currently Amended) A method of making replicate arrays, comprising repeatedly sectioning a bundle of aligned array members disposed in structural members to make wafers comprising replicate arrays, wherein:

each of said ~~array comprises~~ structural members is aligned in the bundle parallel to an alignment axis and continuously encloses a ~~each of which has a~~ lumen through its length parallel to said axis ~~therethrough which is continuously enclosed thereby~~;

each of said array ~~member~~ members in said bundle is a homogeneous composition disposed within a ~~separate~~ lumen of a structural member ~~which extends from a first to a second wafer surface formed by said sectioning;~~ and is continuously enclosed therein through the length of said structural member parallel to said axis; and

in forming said bundle said array members are disposed in said lumen such that upon and by said disposition therein said array members are therein continuously enclosed by said structural members through their length parallel to said axis, and

in each wafer formed by said sectioning of said bundle the section of each structural member and each array member disposed therein ~~are aligned in the bundle parallel to an alignment axis and occupy~~ occupies a defined position in the two dimensions orthogonal ~~thereto~~ to the alignment axis and extends from a first to a second wafer surface formed by said sectioning;

wherein the array members comprise analyte binding reagents that hybridize to DNA or RNA having specific nucleotide sequences, and

wherein at least two array members are different from one another.

Claim 138 **(Currently Amended)** A method of making replicate arrays, comprising repeatedly sectioning a bundle of aligned array members disposed in structural members to make wafers comprising replicate arrays, wherein:

each of said ~~array comprises~~ structural members is aligned in the bundle parallel to an alignment axis and continuously encloses a ~~each of which has a~~ lumen through its length parallel to said axis ~~therethrough which is continuously enclosed thereby~~ ;

each of said array ~~member~~ members in said bundle is a homogeneous composition disposed within a ~~separate~~ lumen of a structural member ~~which extends from a first to a second wafer surface formed by said sectioning;~~ and is continuously enclosed therein through the length of said structural member parallel to said axis; and

in forming said bundle said array members are disposed in said lumen such that upon and by said disposition therein said array members are therein continuously enclosed by said structural members through their length parallel to said axis, and

in each wafer formed by said sectioning of said bundle the section of each structural member and each array member disposed therein ~~are aligned in the bundle parallel to an alignment axis and occupy~~ occupies a defined position in the two dimensions orthogonal ~~thereto~~ to the alignment axis and extends from a first to a second wafer surface formed by said sectioning;

wherein the array members comprise analyte binding reagents that bind specific polypeptides, and

wherein at least two array members are different from one another.